

USW# 1750
Customer No. 22193
(60,434-011)

METHOD AND SYSTEM FOR PROVIDING CALLER IDENTIFICATION FOR AN UNIDENTIFIED CALLING PARTY

BACKGROUND OF THE INVENTION

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The present invention relates generally to a method and system for providing calling party identification and more particularly to a method and system for providing calling party identification for an unidentified calling party to a subscriber connected to the Internet via their telephone.

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Many telephone customers subscribe to caller ID service. Caller ID provides to the subscriber an identification of the calling party. Some calling parties' identity may be unavailable, based upon the location of the calling party or if the calling party selectively blocks the calling party identification. For this case, some telephone customers also subscribe to a feature in which incoming calls which do not include calling party identification (either unavailable or blocked) are first "screened." For screening, the telephone system first prompts the calling party to audibly identify itself to the telephone system. This audible identification is then played to the subscriber, who can then decide to accept or reject the call.

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Caller ID can also be provided to a telephone subscriber logged onto the Internet via the subscriber's line. If a new call is made to the subscriber's line while connected to the Internet, the subscriber sees a "pop-up" screen on their computer display informing them of the new call and presenting several options for disposal of the call. These dispositions include: taking the call over the Internet, sending the call

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to the subscriber's voicemail, rejecting the call, and hanging up the Internet connection and accepting the call over the phone. This feature works well when the identity of the calling party is known; however, when the calling party identity is unknown (e.g., the calling party information is unavailable or blocked), the information presented to the subscriber is simply "unknown call." The subscriber does not have enough information to determine whether to accept or reject the call. Even if the subscriber subscribes to both the caller ID and audible identification feature, the pop-up screen for a call with no calling party information would simply show that the calling party identification is not available. The audible identification cannot be provided to the subscriber.

SUMMARY OF THE INVENTION

The present invention requests from the calling party and provides to the subscriber an audible identification of the calling party. Generally, while the subscriber is logged on to the Internet, another call to the subscriber's line causes the service switching point ("SSP") to send a query to a service control point ("SCP"). The SCP screens the calls and determines whether the calling party information is present. If the calling party information is not present (either unavailable or blocked), the SCP directs the SSP to send the call to an intelligent peripheral ("IP"). The IP prompts the calling party to record their name (or some sort of identification). A pop-up screen appears on the subscriber's display alerting the subscriber of an incoming

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call. The pop-up screen indicates that the calling party identification is unavailable, but the subscriber also has the additional option of "playing the recorded identification." The subscriber selects the option to have the recorded identification played on the subscriber's computer via the Internet. After listening to the audible
5 identification on the subscriber's computer, the subscriber then can choose to reject the call, send the call to voicemail, terminate the Internet connection and take the call, etc.

In another embodiment, the user can be connected to the Internet (or any other computer network) via some route other than the subscriber line to which the
10 incoming call is made. For example, the user can be connected to the computer network via a second subscriber line, a DSL line, cable modem, etc. In this case, calls to the subscriber line are handled in the same way described above, except that the subscriber line need not be busy - - the user has chosen to have all calls to the subscriber line screened and to be notified via the computer network.

15 **BRIEF DESCRIPTION OF THE DRAWINGS**

Figure 1 is a schematic of the caller identification system of the present invention as implemented in an advanced intelligent network;

Figure 2 is a flowchart illustrating the operation of the caller identification system of Figure 1; and

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Figure 3 is a schematic of an alternate embodiment of the caller identification system of Figure 1, also implemented in an advanced intelligent network.

DETAILED DESCRIPTION OF A PREFERRED EMBODIMENT

Figure 1 schematically illustrates a telecommunication system 10 according to the present invention that provides caller identification for an unidentified calling party to a subscriber connected to the Internet via their phone. The telecommunication system 10 is shown implemented in an advanced intelligent network ("AIN") and includes several known programmable components which are additionally programmed to perform the functions described below.

The telecommunication system 10 includes a service switching point ("SSP") 12 connected to a plurality of subscriber lines, including subscriber line 14. As is well known to those familiar with AIN, the SSP 12 is an intelligent switch programmed to recognize a variety of triggers relating to subscriber line 14. In response to these triggers, the SSP 12 sends a query to a service control point ("SCP") 16. Generally, the SCP 16, upon receiving a query from the SSP 12, indexes its database 17 to determine how the call should be processed and returns instructions regarding call routing or processing to the SSP 12.

The SSP 12 is also connected to an intelligent peripheral ("IP") 18, another known AIN component. The SSP 12 also provides a connection of the subscriber line 14 to a telephone network 20, providing access to and from other subscriber lines,

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such as subscriber line 21. The subscriber line 14 is also provided access through the telephone network 20 and dial-up access 22 to the Internet 24 (or some other computer network). In order to access the Internet 24, the user has a computer 26 connected by a modem 28 to the subscriber line 14, which is shared with a telephone

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Ins B' / An on-line call alert ("OCA") server 32 communicates with the SCP 16 and the Internet 24. The OCA server 32 includes information necessary for the OCA server 32 to communicate with the subscriber's computer 26 via the Internet 24 (such as an email address, the subscriber's Internet service provider or dial-up access 22, etc.) The ISP 18 also includes this information sufficient for it to communicate with the subscriber's computer 26 via the Internet 24.

Each of the above components described in reference to Figure 1 is generally known and unless otherwise specified performs the functions it performed in previously known AIN and/or online call alert systems. The above components are additionally programmed to perform the functions described above as well as those described with respect to the flow chart in Figure 2. Programming each of the components to perform the functions described herein is within the skill of one of ordinary skill in the art based upon this description.

In step 40 of Figure 2, the subscriber logs onto the Internet 24 with their computer 26 via the modem 28 and subscriber line 14 (as well as SSP 12, telephone

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network 20 and dial-up access 22). In step 42, the OCA server 32 is notified via the Internet 24 that the user is logged on to the Internet 24 on the subscriber line 14. In step 44, while the subscriber is logged on to the Internet 24, a call is attempted from another subscriber line 21 to subscriber line 14. This results in a termination attempt
5 trigger in step 46 at SSP 12, which causes SSP 12 to send a query to the SCP 16.

In step 48, the SCP 16 screens the call and determines whether the calling party information is present. If the calling party information is available and not blocked (or, if blocked, unblocked after prompting), then the call is allowed to proceed with an on-line caller alert in step 50, in which the user is informed of the
10 calling party's identification and prompted to choose an option for disposition of the call in step 52. This prompt may be sent via the Internet 24 to the user's computer 26 as a screen pop-up. This will be described in more detail below.

In the present invention, if after step 48 the calling party information is not available, the SCP 16 directs the SSP 12 to send the call to the IP 18 in step 58. In
15 step 60, the IP 18 prompts the calling party on subscriber line 21 to give an audible identification of the calling party, which is recorded on the IP 18 in step 62.

Alternatively, the user can elect to require the audible identification for every call, whether caller identification is available or not. If the user so elects, then both branches to steps 50 and 58 would always both be followed after step 48.

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In step 66, the SCP 16 instructs the OCA server 32 to communicate with the subscriber's computer 26 via the Internet 24 to present a pop-up screen on the computer alerting the subscriber of an incoming call. The pop-up screen indicates that calling party identification is unavailable, but that the user has the option of "play the
5 recorded identification." At this point, the user can select to disconnect the call in step 67. Alternatively, the user can choose to play the recorded auto identification in step 68. Upon the user's selection of the "play the recorded identification" option, the user's computer 26 communicates this option to the OCA server 32 via the Internet 24. The OCA server 32, in turn, passes this request to the SCP 16. The
10 SCP 16 then instructs the IP 18 to connect to the subscriber's computer 26 via the Internet 24. Using various Internet protocols such as H.323, the IP 18 sends the recorded audible caller identification to the subscriber's computer 26. The subscriber's computer 26 plays the incoming recording on the computer speakers or other appropriate hardware (e.g., headset).

15 After listening to the recorded audible identification of the calling party in step 68, the user is then presented with the disposition options on the user's computer 26 in step 52. In step 52, the user can choose to disconnect the call in step 72, take the call over the Internet in step 74, take the call on subscriber line 14 and disconnect the Internet connection in step 76 or some other disposition of the call.

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Figure 3 illustrates an alternate configuration for implementing the present invention. Most of the same components of the system of Figure 1 are utilized in Figure 1, and except as otherwise described or implied, these components have the same functionality. In Figure 3, the user's computer 26 is connected to the Internet
5 24 via an alternate route 90, such as DSL, cable modem or a second subscriber line. Since the user is not tying up the subscriber line 14 for Internet 24 access, this invention would most likely only be useful in this configuration if the user elects to have caller identification for all calls to subscriber line 14 routed via the Internet 24 to the user's computer 26, whether subscriber line 14 is busy or not.

10 The AIN architecture is well-documented and well-known to those skilled in the art and, except as otherwise described above, the operation of the AIN components shown in Figure 1 is in accordance with published standards. Further, the references in the above description to these known AIN components are to be considered terms of art, which would implicitly require their known functionality.

15 In accordance with the provisions of the patent statutes and jurisprudence, exemplary configurations described above are considered to represent a preferred embodiment of the invention. However, it should be noted that the invention can be practiced otherwise than as specifically illustrated and described without departing from its spirit or scope. For example, the subscriber could communicate with the OCA server 32
20 when selecting the playback option in step 68. The OCA server 32 could communicate directly with the IP 18 and instruct it to play back the recorded audible identification in

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step 68. Alternatively, the OCA server 32 could obtain the recorded audible identification from the IP 18 and then play it back to the subscriber computer 26 in step 68 via a protocol such as H.323. Another alternative would be to combine the functionality of the IP 18 and the OCA server 32 into the same logical box. Additionally, it should be recognized that
5 any one of several other triggers could be used for this feature, such as a 3/6/10 digit trigger (podp), terminating busy, or terminating no-answer. As is also known, the "computer" 26 described above could be a fully-functional, fully-programmable general purpose "computer" or what may more commonly be referred to as an "internet appliance" capable of receiving and playing the audible identification.

10 Alphanumeric labels on method steps in the claims below are for convenience of reference by dependent claims, and do not signify a required order of performance of the method steps.

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